



Open Space

OPEN SPACE

Open space is perceived as one of the tools for protecting San Diego's quality of life. It supports the conservation and enhancement of San Diego's existing communities and seeks to aid in the creation of new communities which strive to retain and enhance natural amenities.

The citywide open space system is based upon the natural features of the San Diego coastal plain. It capitalizes on the drainage systems, particularly the river valleys and adjoining steep hillsides which interrupt the coastal plain and link the ocean with the coastal mountain range.

Because the drainage systems contain alluvial soils and ground water they often support lush stands of vegetation and as such, are important assets in establishing the natural amenity or quality of life for San Diego. San Diego's many canyons and valleys are not only scenic but are often particularly suitable for use as natural parks.

The limited use of drainage systems for intensive urban development often provides an opportunity to use them as natural relief from urbanization in already built up areas. Similarly, canyon and hillside open spaces give form to urbanization and can enhance neighborhood environments.

In reviewing the land characteristics of the coastal plain it is apparent that open space may also function to protect the public health, safety, and general welfare. For this reason, steep areas of unstable soil and floodplains may be restricted to reduce development intensities that are consistent with open space objectives.

As a major floodplain, Mission Valley is an important element of the citywide open space system. Additionally, open space in the Valley serves a dual function of recreation and flood control. Given the topography in Mission Valley, the open space, and in particular, the river will affect all aspects of future development in the community including land use, transportation (configuration of surface streets), and urban design.

In Mission Valley, open space includes those areas which form a greenbelt around and through the community. The San Diego River is the most prominent open space element; the hillsides which form the

North and south boundaries of the community are also a natural feature. Finally, parks and recreation areas are the third component of Mission Valley's open space element.

SAN DIEGO RIVER

The San Diego River begins in the Laguna Mountains, northeast of the town of Santa Ysabel, just beyond the northern boundary of the Cleveland National Forest. It winds down through the mountains toward the southwest, through the El Capitan Dam and the cities of Lakeside and Santee. It traverses the Mission Trails Regional Park through Mission Gorge. When it reaches Mission Valley, near the Mission San Diego de Alcala, the river veers sharply westward and continues through the Mission Valley community planning area, and includes that portion of the

San Diego River between Morena Boulevard on the west and Friars Road at Fairmount Avenue on the east.

The San Diego River is the major factor responsible for the existing topography in this area, creating Mission Gorge and the flat floodplain now called Mission Valley. It was the primary source of fresh water for the early San Diego settlements. In urban Mission Valley, the river has the potential for open space, recreational uses, and aesthetic appeal.

The Mission Valley portion of the San Diego River is the major component of a freshwater wetland system complete with a variety of established riparian habitats. Habitat types within the project area include freshwater marsh, open water, riparian woodland, and ruderal or disturbed area. These habitats are currently underutilized by wildlife due to long term physical disturbance within the area, human disturbance, closed marsh habitats, intrusion of giant reeds, and the lack of adjoining or complementing native scrub habitats. Freshwater marsh, open water and riparian woodland are rare habitats in the San Diego area and are potentially significant wildlife resources.

The three major types of existing plant communities are riparian woodland, freshwater marsh, and pond aquatic. Riparian woodland is generally linear in character and closely follows the margins of permanent rivers, streams, and pond areas. It is composed of semi-aquatic trees and herbs which are often dense enough to resemble a forest. Within the planning area, the predominant species are the willows, with a moderate number of Fremont cottonwoods. The woodland habitat is very dense just east of the Interstate 805 Bridge and also just east of SR-163. It is also well developed north of Camino de la Reina at Mission Center Road. The large area just east of Qualcomm Stadium Way and south of the river is actually a successional riparian woodland composed of mule fat, small willows, cottonwood, and tamarisk.

Freshwater marsh is an aquatic community of immersed plants found where the water is at or just above the surface on the shallow margins of open water habitats. In Mission Valley it is composed primarily of cattail and bulrush. This habitat suffers sporadic adverse impacts by flooding, especially in the narrow channel areas between Qualcomm Stadium Way and Mission Center Road, but it is very resilient and can reestablish itself within a few years. The most extensive areas of marsh habitat are located east of Qualcomm Stadium Way and immediately west of Mission Center Road.

Pond aquatic habitats are found in slow moving portions of the river or ponded areas. Within the planning area, species found in this habitat include water fern, duckweed, water hyacinth, water-plantain and ditch grass.

The San Diego River through Mission Valley is a significant aesthetic and economic asset to the community. It provides visual and physical relief from the intensifying urbanization in the Valley, as a linear green space, the river corridor unifies the community, accentuating the natural setting of the Valley. As the Valley continues to develop as a major urban center, the need for accessible open space will increase. The river corridor also provides new opportunities for recreational uses. As the flooding is controlled (through the creation and construction of a flood control facility), the presence of the river should also add to the value of property adjacent to it. The river corridor has the potential to become a regional attraction, drawing residents and

visitors to the area. This will, in turn, draw money into the area and provide greater demand for visitor-oriented services. The unique setting of the river and wetland habitats also adds to the value of property in the area. The addition of a flood control facility may make more land available for development. Existing development, however, has essentially ignored the river, choosing instead to orient away from it.

The current means of flood protection in Mission Valley are the Floodway (FW) and Floodplain Fringe Overlay (FPF) zones which were adopted in 1973 and applied to Mission Valley in 1977. These zones are based upon the U.S. Army Corps of Engineers' determination in 1973 that the 100-year flood would have a peak discharge of 36,000 cubic feet per second (cfs). The zones were applied as an interim flood control measure to protect Mission Valley development until a permanent flood control facility could be designed, funded, and constructed. The FW zone represents the area of inundation during the 100-year flood, given existing development and topography. In a subsequent study (1975), the Corps revised their peak discharge estimate to 49,000 cfs to coincide with the year 2000, 100-year flood level. Therefore, any flood facility should now be designed to carry a minimum of 49,000 cfs in order to meet the Corps' and the City Engineer's standards. When a facility is designed which meets all hydraulic, environmental, and design criteria to the satisfaction of the City Council, then the limits of the FW zone may be decreased, potentially increasing the area of developable land in the Valley. The flood control facility includes the portion of the river corridor in which floodwaters will be contained and includes riparian habitat areas. The river corridor includes the area within the 100-year floodway and its surrounding environs, buffer areas, and all land that connects visually and functionally with the river open space.

The San Diego River Natural Resource Wetlands Management Plan (Appendix G) is an integral part of implementing the San Diego River element of the community plan. The City of San Diego has undertaken this management program to help coordinate various private and public interests concerned with riparian/wetlands habitat protection, safe flood passage and continued urban development. With technical assistance from the U.S. Fish and Wildlife Service, California Department of Fish and Game and CALTRANS, the Natural Resource Wetlands Management Plan establishes specific biological design criteria to be coordinated with development and the hydraulic confinement criteria of the existing Open Space – Floodplain (Of-1-1) Zone. The intent is that any development project in conjunction with a projected 100-year flood control facility be so designed that a wetlands habitat system at least equal in quality to that presently existing is preserved, enhanced or created continuously along the San Diego River. By approving a comprehensive plan specifying the future identity of the river channel now, development expectations can be clarified, and the granting of permits for projects which are in conformance with the plan can be facilitated. Under the present system, incremental portions of the river are disrupted, and piecemeal compensation projects may fail to assure a unified and functional wetland habitat.

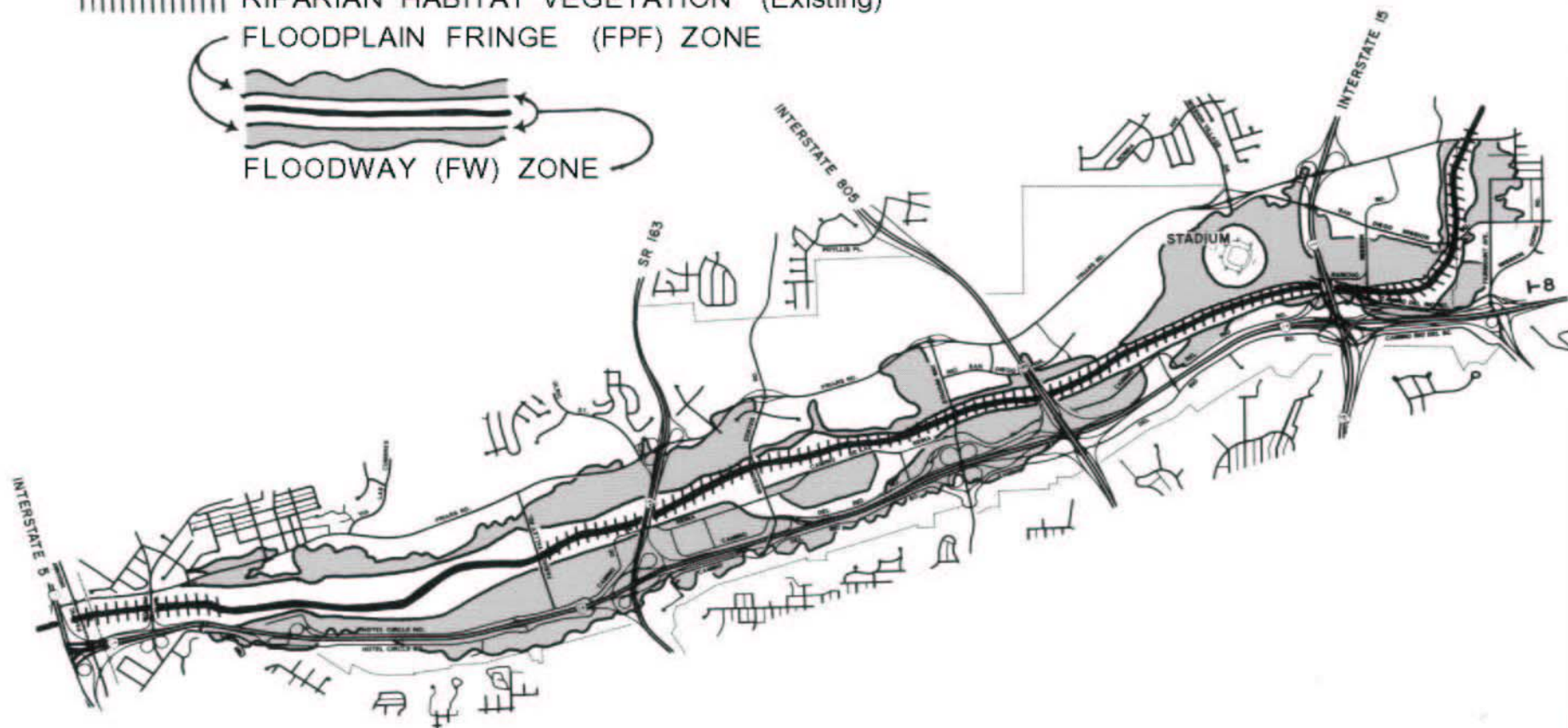
In order to create and maintain a viable wildlife corridor within the floodway proper, it is necessary to protect the native habitat areas from excessive human disturbance. The degradation of both the native habitats and their use by wildlife can occur through either noise, visual or direct physical disturbance. These same forms of disturbance can also degrade the aesthetic value of the river corridor for human use. For these reasons, buffers should be provided and activities should be restricted along and within the floodway.

LEGEND

- SAN DIEGO RIVER
- ||||| RIPARIAN HABITAT VEGETATION (Existing)
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FLOODPLAIN FRINGE (FPF) ZONE

FLOODWAY (FW) ZONE



CITY OF SAN DIEGO
PLANNING DEPARTMENT

SAN DIEGO RIVER
MISSION VALLEY COMMUNITY PLAN



FIGURE
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Physically, the buffer along the San Diego River is defined as the area between the edge of the 100-year floodway and adjacent development. A substantial buffer, planted with native species of coastal sage scrub and native trees, is needed to protect the river's habitat and to create greater edge and diversity.

It is the desire of the community that the San Diego River area be landscaped and beautiful, with flood protection to be accomplished in such a way so as to look natural and provide recreational facilities for the public. The purpose of this element is to provide objectives and guidelines which will facilitate the development of the San Diego River as a natural, functional component of the Mission Valley community.

OBJECTIVES

- Protect existing and future development from flood hazard.
- Preserve and maintain the wetlands and riparian habitat areas along both sides of the river.
- Enhance and maintain the aesthetic and recreational qualities of the river corridor as part of an open space system.

PROPOSALS

- Provide criteria to enable property owners to design, construct, and maintain a flood control facility for the length of the San Diego River within the community planning area.
- Utilize design principles to enhance visual and physical access to the river.
- Develop and implement a flood control facility maintenance program in conformance with the Natural Resource Wetlands Management Plan to identify cost responsibilities and to facilitate permit review and issuance. In the absence of a regional maintenance program, maintenance programs should be developed for all projects proposed along the river.
- Develop guidelines for compatible uses adjacent to the river.

DEVELOPMENT GUIDELINES

- Any flood control facility designed and constructed in Mission Valley must meet the following hydraulic, environmental, design, maintenance, and financing criteria.
1. Hydraulic criteria:
 - a. The facility should be capable of containing the year 2000, 100-year flood, of 49,000 cubic feet per second as determined by the U.S. Army Corps of Engineers and the City Engineer and as updated thereafter in order to provide public safety and protect public and private investment.

- b. The facility should be designed using coefficient of friction values commensurate with expected future habitat growth and erosion protection. The design of the floodway should ensure that existing or enhanced riparian and wetland vegetation can be achieved concurrent with necessary hydraulic parameters.
- c. All north-south roads crossing the flood control facility should be improved or constructed to be passable during a minimum year 2000 10-year flood and should act as energy dissipaters for floods of greater volumes. The impacts of an energy dissipater effect must be taken into account when designing the carrying capacity of the flood management facility.
- d. Any given segment of the facility should deliver and receive water at velocities equal to the existing exit and entry velocities.

2. Environmental Criteria:

- a. The facility shall be unlined and soft-bottomed with sloping, vegetated sides.
- b. Dikes, embankments, etc, should be vegetated or otherwise protected against erosion. Riprap may be used in limited areas where scouring is likely to occur during high velocity flows of water.
- c. The width of the facility should vary from bank to bank according to the environmental setting and hydraulic criteria.
- d. The design and construction of the flood control facility within the river corridor should implement the Wetlands Management Plan, replacing any habitat areas which are disturbed or eliminated by the facility itself or its construction, and enhancing and preserving any remaining areas. A biological mitigation program should be developed for all projects impacting native wetland/riparian vegetation. Such a program should ensure that each native habitat type (open water, marsh, riparian woodland) would not be quantitatively reduced and that any revegetation would result in a qualitative improvement to the affected vegetation.
- e. A phasing plan for construction of any flood control facility should be developed so as to allow any newly created biological community to become established before the next is disrupted.
- f. A maintenance plan should be established to insure the future quality and preservation of wetland and riparian habitat areas.

3. Design Criteria:

- a. Any flood control facility should be designed to complement the linear greenbelt along both sides of the river. Indigenous types of vegetation should be allowed to grow within the facility and along the edges (refer to landscaping appendix, Appendix F). The sides of

the facility should reproduce natural slopes, and where riprap or man-made materials are exposed, they should be sculptured in a manner to enhance the overall setting, or covered with soil and revegetated. The design of the floodway should ensure that the biological program could be achieved concurrent with the necessary hydraulic parameters.

- b. Pedestrian and/or bicycle paths should be included as part of the design of the facility. They may be placed within the flood facility or on an embankment, and therefore subject to periodic flooding, as long as the carrying capacity of the facility is not impaired, and if they do not conflict with the recommendations of the Natural Resources Wetlands Management Plan and this element.
- c. Buffer areas should be located along the entire length of both sides of the river and at no location should private development intrude into the floodway proper. Buffer areas should meet the following criteria:
 - (1) The average width of the buffer within each project area should not be less than 20 feet.
 - (2) Buffer areas should be widest adjacent to the most sensitive habitat areas.
 - (3) Buffer areas should be planted with a combination of native trees and shrubs, particularly riparian woodland and coastal sage scrub species. The buffer should provide a woodland overstory, but a more open and maintained understory could be established in some locations to provide views and a more traditionally landscaped appearance (Appendix F).

4. Maintenance Criteria

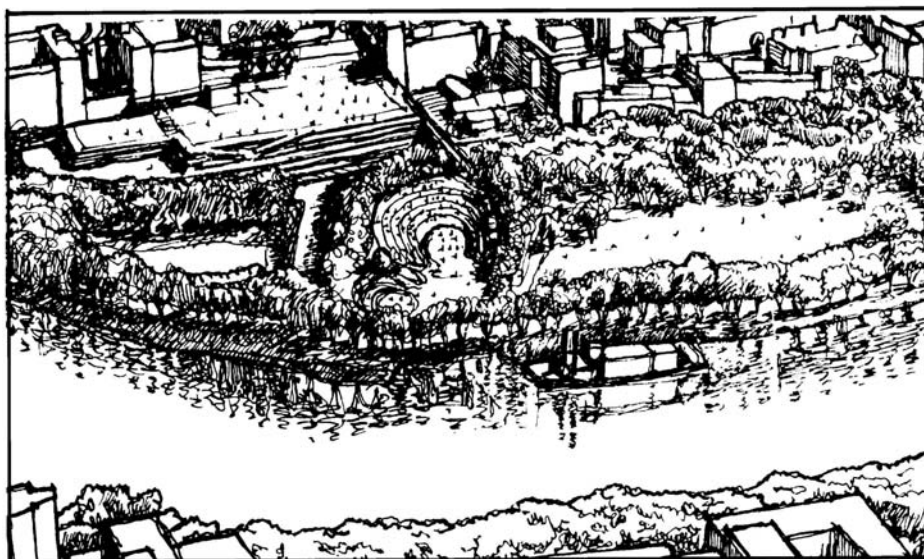
- a. A maintenance program for the flood control facility should be developed in conformance with the guidelines provided by the Wetland Management Plan, and should include the following:
 - (1) Identification of wetland/riparian habitat areas which should be preserved and those which can be restored or replaced.
 - (2) A determination of maintenance responsibilities for the long-term rehabilitation, enhancement and protection of wetland/riparian resources.
 - (3) The establishment of a Valley-wide maintenance program to eliminate the need for the issuance of individual clearing/dredging permits from the various state and federal resource agencies.
- b. Maintenance of the flood control facility should include maintenance of the biological resources, the floodway's hydraulic efficiency, and the river corridor's aesthetic quality.
- c. Maintenance should be privately funded.

5. Financing Criteria:

- a. An assessment district or some other means of private financing should be formed to provide funding for construction and maintenance of the flood control facility. The financing program should:
 - (1) Include all owners of property which would be directly affected by, or benefit from, a flood control facility in Mission Valley.
 - (2) Exempt and/or credit any group or individual property owner that develops, funds, constructs, and maintains the flood control facility themselves.
- Land uses compatible with the river and the goals of the Wetlands Management Plan should be implemented as part of any development project adjacent to the river. All riverfront projects should implement the concept of habitat preservation, a flood facility, and a linear park of a quality comparable to or better than those included in the First San Diego River Improvement Project (FSDRIP) which has been approved by the City Council.
1. Any facilities located within the 100-year floodway should be compatible with the primary use of the floodway as a natural open space system and should not reduce the quantity or quality of the native habitat areas. Compatible land uses would consist primarily of passive recreational uses including, but not limited to:
 - a. Fitness stations for joggers.
 - b. Fishing platforms.
 - c. Viewing or rest areas.
 - d. Pedestrian and bicycle paths (placed near the floodway edge).
2. Land uses within the buffer area may include:
 - a. Light rail transit corridor.
 - b. Pedestrian and bicycle paths.
 - c. Passive recreational uses.
3. Compatible land uses adjacent to the river corridor may include commercial or active recreational uses such as:
 - a. Outdoor cafes.
 - b. Art or craft sales.

- c. Plant nurseries.
 - d. Hotels or motels.
 - e. Restaurants.
 - f. Volleyball and tennis courts.
 - g. Softball fields (grass).
 - h. Golf courses or putting greens.
- Planned commercial/residential developments (PCD/PRD) located adjacent to the river corridor should use the river corridor area immediately adjacent to the flood control facility to fulfill their open space or landscaped area requirements.
 - The river corridor adjacent to the flood control facility should include adequate space provisions for the following:
 - a. A buffer area with an average width of not less than 20 feet between the wetland habitat area and adjacent urban development.
 - b. An east-west extension of Camino de la Reina as a four-lane major street between Napa Street and Fairmount Avenue, passable during a year 2000 100-year flood in the area between Fashion Valley Road and SR-163. The road may have to be situated below the 100-year flood level due to existing urban development. Under no circumstances, however, should that portion of the road be inundated by any flood less than the 10-year flood level.
 - c. A light rail transit (LRT) line right-of-way along the river, above the year 2000, 100-year flood level. The LRT line should extend from the intersections of Friars Road and Moreno Boulevard, eastward to the San Diego Jack Murphy Stadium. The precise widths of the LRT right-of-way and the station locations will be determined by future engineering studies. However, it is anticipated that, at the very minimum, the right-of-way widths will be 22 feet or greater and the stadium location widths will be typically 34 feet. The LRT alignment is expected to be on the north side of the river except that a segment between SR-163 and Stadium Way is expected to be on the south side of the river. Additional environmental review will be necessary where there are intrusions into the wetlands habitat. In any such instances, appropriate mitigation will be required, including the widening of buffer areas.
 - Individual development projects located along the river corridor should be processed as specific plans or as planned developments and reviewed with adjacent (previously adopted) projects in mind in order to insure the connection of roads, transit alignment, walkways and bikeways.

Note: See Appendix E for Department of Water Resources recommendations for flood damage prevention.



Conceptual design and development along the San Diego River through Mission Valley



Height limits of 40 to 65 feet should be established in the area south of I-8 to maintain visibility to adjacent natural hillsides.



Hillside development encroachment should be low density in character.